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(71) Applicant (for all designated States except US): VIRCO BVBA [BE/BE]; Generaal De Wittelaan L 11B 4, B-2800 Mechelen (BE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): VAN MARCK, Herwig, Gaston, Emiel [BE/BE]; Lakenmeerstraat 27, B-9810 Nazareth (BE). VAN DEN BULCKE, Tim, Gerrit [BE/BE]; Gentsesteenweg 45, B-2800 Mechelen (BE). VERMEIREN, Hans, Victor [BE/BE]; Vennecourtlaan 42, B-2812 Muizen (BE).

(74) Agent: DAELEMANS, Frank; Tibotec-Virco Comm. VA, Generaal De Wittelaan L11 B3, B-2800 Mechelen (BE).

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(54) Title: QUANTITATIVE PREDICTION METHOD

(57) Abstract: The present invention concerns methods and systems for analysis of drug resistance in HIV-1. More specifically, the invention provides methods for predicting drug resistance by correlating genotypic information with phenotypic profiles. The methods allow the identification of primary and secondary resistance-associated mutations for new and existing drugs and for calculating the contribution of mutations and combinations of mutations to resistance and hyper-susceptibility. The invention allows the design, optimization and assessment of the efficiency of a therapeutic regimen based upon the genotype of the disease affecting a patient.